

WHAT IS CLAIMED IS:

1. A graphing calculator that provides an X=Editor comprising:
  - a display screen,
  - a cursor on the display screen;
  - a key panel having keys at least capable of selecting positions of said cursor on said display screen;
  - a processor for executing X=Editor programming that instructs said processor to perform the following steps:
    - a) display an X=Editor input screen on the display screen with one or more "X=" prompts which allow a user to define one or more equations or inequalities,
    - b) allow the user to select at least one of said "X=" prompts and then select a relational symbol and a constant for each "X=" prompts, and
    - c) display each selected equation or inequality on the display as a line having a line type.
2. The graphing calculator of Claim 1, wherein said processor is further programmed to display the inequality symbols available for the user to select on the display when the cursor is over the position of the relational symbol in the "X=" prompt.
3. The graphing calculator of Claim 1, wherein said processor is further programmed to allow the user to select or deselect each defined equation or inequality for display prior to step c.
4. The graphing calculator of Claim 1, wherein the line type for displaying the graph of each selected equation or inequality is determined by which relational symbol is selected for that "X=" prompt.
5. The graphing calculator of Claim 4, wherein the line type for each equation or inequality is displayed on the graph display by a symbol that represents that line type.

6. The graphing calculator of Claim 4, wherein the line type for “<” and “>” is a broken line and the line type for “=”, “≤” and “≥” is a solid line.

7. The graphing calculator of Claim 5, wherein the line type for “<” and “>” is a broken line and the line type for “=”, “≤” and “≥” is a solid line.

8. The graphing calculator of Claim 1, wherein the line type for “<” and “>” is a broken line and the line type for “=”, “≤” and “≥” is a solid line.

9. A method to allow a user to input and graph equations or inequalities on a calculator comprising the steps of:

displaying an X=Editor having one or more lines of the format  $X_n(\text{relational symbol})(\text{Constant});$

allowing the user to select the relational symbol for one or more  $X_n$ ;

allowing the user to enter the constant for one or more  $X_n$ , and

graphing one or more  $X_n$  equations or inequalities in response to an input from the user.

10. The method of Claim 9, further comprising the steps of receiving an input from the user to activate or inactivate at least one  $X_n$ .

11. The method of Claim 9, wherein said step for allowing the user to select the relational symbol for one or more  $X_n$  further includes selecting the line type to be graphed according to the relational symbol chosen.

12. The method of Claim 11, wherein the line graphed comprises a broken line for “<” and “>” relational symbols and a solid line for relational symbols “=”, “≤”, and “≥” at the chosen constant position on the graph.

13. The method of Claim 9, wherein the X=Editor display shows the relational symbols available for the user to select on the bottom of the display when the cursor is over the position of the relational symbol in the “X=” prompt.

14. The method of Claim 9, wherein the X=Editor display includes a symbol which allows the user to switch to the Y=Editor display when the symbol is selected by the cursor.

15. The method of Claim 14, wherein the symbol which allows the user to switch to a Y=Editor indicates whether there are activated equations defined on the Y=Editor display.

16. A computer based mathematics teaching tool that provides an X=Editor comprising:

a screen capable of displaying at least straight lines in any direction and a cursor;

a key panel having keys at least capable of selecting positions of said cursor on said screen;

a processor for executing X=Editor programming that instructs said processor to perform the following steps:

a) display an X=Editor input screen with one or more "X=" lines which allow a user to define one or more inequalities,

b) allow the user to select at least one of said "X=" lines and then select an inequality symbol and a constant for each "X=" line, and

c) display each selected inequality on the display as a line having a line type.

17. The computer based mathematics teaching tool of Claim 16, wherein said processor is further programmed to display the inequality symbols available for the user to select on the display when the cursor is over the position of the inequality symbol in the X= line.

18. The computer based mathematics teaching tool of Claim 16, wherein the line type for displaying the graph of each selected inequality is determined by which inequality symbol is selected for that inequality.

19. The computer based mathematics teaching tool of Claim 19, wherein the line type for each inequality is displayed on the graph display by a symbol that represents that line type.